

REMARKS

Applicant appreciates the Examiner's thorough consideration of the present application. Claims 1, 2 and 4-26 are currently pending in the instant application. Claims 19-26 have been added for the Examiner's consideration. The subject matter of claims 19-26 are fully supported by the original written description, including, but not limited to pages 24-26 of the present application and the original claims, e.g., claims 1 and 12. Claims 1, 12, 15 and 16 are independent. Reconsideration of the present application is earnestly solicited.

Allowable Subject Matter

Applicant appreciates the Examiner's indication of allowable subject matter. Specifically, the Examiner has indicated that claims 2 and 14-16 have been allowed. In addition, the subject matter of claim 6 has also been identified as containing allowable subject matter if rewritten in independent format. As discussed in greater detail hereinafter, Applicant submits that all of the claims of the present application should be allowed and the present application should be passed to Issue.

Claim Rejections Under 35 U.S.C. § 103

Claims 1, 4, 5, 7-13, 17 and 18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Takahashi (U.S. Patent No. 5,940,824) in view of Sugiyama (Japanese Patent Document No. JP404291881A). This rejection is respectfully traversed.

With respect to claims 11, 17 and 18, the Examiner has discussed Otto (U.S. Patent No. 6,244,514) on pages 5 and 6 of the Final Office Action in connection with these claims. However, the Examiner will note that the rejections based upon the Otto reference have been withdrawn by the Examiner (see page 2, paragraph 2) in this Office Action. Accordingly, claims 11, 17 and 18 have not been properly rejected by the Examiner in this Office Action. Further, the Examiner has not indicated that the combination of Takahashi in view of Sugiyama renders these claims obvious. Therefore, if this rejection is maintained in any form, the Examiner must withdraw this rejection or clarify the basis of this rejection of claims 11, 17 and 18. In addition, any subsequent action rejecting these claims should not be made final as Applicant has not been provided with a reasonable opportunity to respond to the alleged grounds of rejection for these claims.

Applicant submits that all of the rejections have been obviated and/or rendered moot. Specifically, the prior art of record fails to teach or suggest

each and every limitation of the unique combination of limitations of claims 1 and 12. Accordingly, this rejection should be withdrawn.

With respect to claim 1, the prior art of record fails to teach or suggest each and every limitation of the combination of limitations of the claimed invention, including the limitation(s) of “wherein said compression device performs *normalization for correcting fluctuation of said image data in reading prior to compression of said image data of said image to perform setup of said image data to achieve a predetermined reference value of the compressed image data.*” (emphasis added) Accordingly, this rejection should be withdrawn.

With respect to claim 12, the prior art of record fails to teach or suggest each and every limitation of the combination of limitations of the claimed invention, including the limitation(s) of “a retrieval device for retrieving said image stored in said storage device while said compressed image data is in a compressed state to read said information of the image processing corresponding to the image of interest; and a compression device for compressing image data of said image to produce said compressed image data, wherein said compression device performs *normalization for correcting fluctuation of said image data in reading prior to compression of said image data of said image to perform setup of said image data to achieve a predetermined*

reference value of the compressed image data.” (emphasis added) Accordingly, this rejection should be withdrawn.

In claims 1 and 12, normalization of the image data prior to compression is provided. The Examiner acknowledges that Takahashi does not teach or suggest this feature, and relies upon the alleged teaching of Sugiyama to cure this deficiency. On page 3 of the Office Action, the Examiner acknowledges that Takahashi does not teach normalization of image data prior to compression of the image data. Although the Examiner has alleged that Sugiyama teaches or suggests modifying Takahashi to normalize image data prior to compression of the image data, Applicant submits that the Examiner has misinterpreted the Sugiyama reference. Applicant respectfully submits that the Examiner has misinterpreted the Sugiyama reference due to an incomplete or inaccurate translation thereof. Accordingly, attached is a partial and accurate English translation of relevant portions of the Sugiyama reference.

In contrast to the claimed invention, Sugiyama specifically states in the same portions relied upon by the Examiner, e.g., the Abstract (Purpose) of the Sugiyama reference, that to “enable normalization with high accuracy by compressing the data of an inputted color component signal, retrieving a normalizing table and adding a correcting amount to a result obtained by the

normalizing table.” Therefore, compression is performed prior to normalization of any of the image data in Sugiyama, i.e., not normalization prior to compression. Therefore, the combination of Takahashi in view of Sugiyama clearly does not teach or suggest claims 1 and 12.

Applicant submits that the Examiner has misinterpreted Sugiyama as this reference clearly describes, in direct contrast to the claimed invention, “normalizing *after compression* of the input RGB data.” Sugiyama specifically describes normalizing after compression of the input RGB data, which is explicitly and further described in the Abstract, Operations under Claim 1, and paragraphs 0010, 0017 to 0019 and 0023 to 0031 (see enclosed partial English translation of Sugiyama).

In the claimed invention, the normalization of the image data prior to compression in the present invention is performed to set up a predetermined value of the compressed image data of the image, e.g., such as an average value, maximum value or minimum value thereof as a reference value, and preferably to obtain the same average value of the compressed image data between the images and the retrieved images.

Normalization of the image data prior to compression in the claimed invention compensates (normalizes) fluctuations due to the different processes of obtaining the image data of respective images, e.g., such as the fluctuations

in light modulations to scan in cases where images photographed on photographic films are photoelectrically read by a scanner. The normalization of the image data prior to compression in the claimed invention is performed to set up a predetermined value of the compressed image data of the image such as an average value, maximum value or minimum value thereof as a reference value, and preferably to obtain the same average value of the compressed image data between the images and the retrieved images. The average value is utilized in setting up an image, i.e., an image data (refer to line 6 from the bottom in page 24 to line 4 in page 26 in the specification of the present application).

In accordance with the above discussion of the patents relied upon by the Examiner, Applicant respectfully submits that these documents, either in combination together or standing alone, fail to teach or suggest the invention as is set forth by the claims of the instant application.

Accordingly, reconsideration and withdrawal of the claim rejections are respectfully requested. Moreover, Applicant respectfully submits that the instant application is in condition for allowance.

As to the dependent claims, Applicant respectfully submits that these claims are allowable due to their dependence upon an allowable independent claim, as well as for additional limitations provided by these claims.

CONCLUSION

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but rather to merely show the state-of-the-art, no further comments are necessary with respect thereto.

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently pending rejections and that they be withdrawn.

In the event there are any matters remaining in this application, the Examiner is invited to contact Matthew T. Shanley, Registration No. 47,074 at (703) 205-8000 in the Washington, D.C. area.

Applicant respectfully petitions under the provisions of 37 C.F.R. § 1.136(a) and § 1.17 for a two-month extension of time in which to respond to the Examiner's Office Action. The Extension of Time Fee in the amount of **\$950.00** is attached hereto.

Docket No. 1110-0258P
Appl. No.: 09/448,301
Art Unit: 2624
Amendment dated September 14, 2004
Reply to Office Action of March 15, 2004
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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment

English Translation of Sugiyama (partially)

[WHAT IS CLAIMED IS]:

[Claim 1]

A color image communication device that inputs color image information and sends color image data, comprising:

a color image input section that reads a color image to obtain plural color component signals;

means for compressing said color component signals;

a table that relates converted color component signals to the compressed color component signals;

means for determining respective correction values of color components from the inputted color component signals; and

means for adding said correction values to the converted color component signals, wherein

the color component signals supplied from the color image input section are compressed and converted by table lookup retrieval as well as the respective correction values of the color components determined from the inputted color component signals are added to the converted color component signals to calculate the plural color component signals and to send the calculated plural color component signals.

[0010]

[Operations]

According to the present invention, by compressing data of the inputted plural color component signals and retrieving data from a normalization table by the compressed data, the device can be made a smaller size of the normalization table. In addition, the invention realizes the highly accurate normalization of the color component signals by adding a correction amount determined by the inputted plural color component signals to the color component signals obtained from the normalizing table.

[0017]

R, G and B signals sent from the scanner 1 are sent to the shifting part 5 and the masking part 8. The shifting part 5 shifts 8-bit data of the respective R, G and B signals by 3 bits rightward; that is, by dividing the R, G and B signals by 16, each data thereof is compressed into 5 bits and sent to the normalizing table retrieving part 6.

[0018]

The normalizing table retrieving part 6 retrieves data from the normalizing table 7 by a combination of 5-bit data of the respective R, G and B signals and sends the

thus retrieved R, G and B data to the adder 11.

[0019]

In the meantime, the masking part 8 obtains a logical product (AND) of the 8-bit data of the respective R, G and B signals sent from the scanner 1 with respect to the normalizing table 7. In other words, other bits than the lower 3 bits in the 8-bit data are rendered to be 0 and sent to the correction table retrieving part 9.

[0023]

Fig. 3 is a flowchart showing operations in the shifting part 5.

[0024]

In the step S12, the respective R, G and B signals is shifted by 3 bits rightward. In this operation, R, G and B signals, respectively, are compressed from 8 bits to 5 bits.

[0025]

Fig. 4 is an example of normalizing table, where R, G and B values corresponding to the R, G and B signals compressed into 5 bits are stored.

[0026]

The example shown in Fig. 4 illustrates the results from compressing the R, G and B signals into 5 bits as follows:

when $(R, G, B) = (0, 0, 0)$,

corresponding R, G and B become $(R, G, B) = (10, 8, 8)$;

when $(R, G, B) = (0, 0, 1)$,

corresponding R, G and B become $(R, G, B) = (10, 9, 17)$;

and

when $(R, G, B) = (31, 31, 31)$,

corresponding R, G and B become $(R, G, B) = (250, 250, 248)$.

[0027]

Since R, G and B values compressed into 5 bits are from 0 to 31, resulting in 32k (= cube of 32) combinations, the normalized data can be stored in an ROM of 96k bytes (= 32k x 3).

[0028]

Fig. 5 is a flowchart illustrating operations in the normalizing table retrieving part. Step S13 calculates a value n in the formula $n = R \times 32 \times 32 + G \times 32 + B$ with respect to the respective R, G and B data compressed into 5 bits, and Step S14 obtains the n^{th} set of R, G and B values in the normalizing table.

[0029]

Fig. 6 is a flowchart illustrating operations in the correction table retrieving part, and Fig. 7 illustrates an exemplary correction table. In the figures, reference numerals 17, 18 and 19 denote R, G and B correction tables,

respectively. In the correction tables, values corresponding to the numbers 0 to 7 are resistered.

[0030]

Step S15 obtains a logical product of a number of 7 with respect to each of R, G and B. That is, other bits than the lower 3 bits are rendered to be 0, and then values corresponding thereto are determined and sent to the adder 11 as correction values.

[0031]

In the embodiment described above, provided with a normalizing table for 96k bytes and a correction table for 24 bytes, normalization of R, G and B can be realized.